L3HARRIS®
FAST. FORWARD.



XL ONBOARD™ SERIES

Ultra-Reliable, Road-Ready Radios

When your mission requires you to be mobile, you need a multiband radio that can move with you. Trust the XL Onboard™ series for the power and flexibility your work demands.

The ride is always smoother with a best-in-class radio by your side. The XL Onboard Series P25 radios bring unflinching critical communications to any vehicle in your fleet. Connect in ways others can't with either the multiband XL 200M or single-band XL 185M, both of which are FirstNet Ready®. XL Onboard radios offer LTE capability and include Wi-Fi® and Bluetooth® connectivity. Loud and clear audio with five speaker outputs paired with our advanced noise cancellation technology ensure you can hear and be heard in loud environments. The rugged, modular design combines the flexibility to fit any dashboard, with the fortitude to withstand tough conditions, while an intuitive interface frees your focus for the road ahead.

RELENTLESSLY RELIABLE

XL Radios run on systems that double down on redundancy, champion open networks and connect seamlessly with P25-compliant organizations.

POINT-TO-POINT SECURE

Our AES-256 encryption provides an end-to-end secure configuration, keeping you safe from threats.

BACKED WITH ALL-IN, 24/7 SUPPORT

Our service packages keep your radios up and running with in-field preventative maintenance and software upgrades.

Key Benefits

- Interoperability across VHF, UHF, 700/800 and 900 MHz bands
- Connects in more places with Wi-Fi, Bluetooth and GPS
- The XL Onboard Series radios are AT&T® and Verizon® Certified
- Both XL 200M and XL 185M are FirstNet Ready
- Multiple encryption options for secure communications
- Modular design for flexible mounting configurations
- Field upgradeable LTE and broadband hotspot capabilities
- Advanced noise cancellation technology
- Ruggedized to MIL-STD-810G standards for tough conditions
- 3.3-inch color display with 8 programmable buttons and simple menu access

SPECIFICATIONS: XL ONBOARD SERIES

GENERAL

Dimensions (H x W x D):		
Radio Only	2.0 x 6.9 x 9.7 in (49 x 174 x 230.5 mm)	
Radio and Control Unit (includes knobs)	2.4 x 6.9 x 12.8 in (60 x 175 x 320.7 mm)	
Control Unit (Remote) (includes knobs	2.4 x 6.9 x 4.0 in (60 x 175 x 72.2 mm)	
Weight:		
Remote Mount Radio	5.0 lbs (2.3 kg)	
Control Unit (Remote Mount)	1.3 lbs (0.6 kg)	
Front Mount Radio with Control Unit	7.0 lbs (3.2 kg)	
Channel/Talkgroup Capacity	12,500 (1,250 per mission plan—up to 10 mission plans)	
Radio Programming	Firmware, personalities and feature set over Wi-Fi	
Control Unit	18-bit color LCD 480 pixels x 220 pixels 3.3-inch color LCD with up to 3 lines of text 5 programmable favorites buttons Separate volume and channel selector knobs Built-in speaker Single DIN sizing 2 USB-C ports (1 for microphone)	
Speakers:	Two channels of 15 W of audio (< 3% distortion) on both the radio body and control head	
External, 15 W		
Internal, 3 W	Built-in Control Head Speaker	
Environmental Specifications:		
Relative Humidity	Per MIL-STD-810G	
Ambient Temperature Range[1]	-22°F to +140°F (-30°C to 60°C)	
Altitude:		
Operational	15,000 ft (4,572 m)	
In-Transit	50,000 ft (15,240 m)	
Electrical:		
System Voltage	10.8 to 16.6 VDC negative ground	
Standby Current Drain	1 A	
Receive Current Drain	2 A	
Current Drain @ 35W TX	10 A	
Current Drain @ 50W TX	15 A	
GPS/GNSS:	P25 standard tier 2 and L3Harris in-band	
	Without LTE Core Connectivity Module	With LTE Core Connectivity Module
Channels	52	72
GNSS Constellations Supported	2	4
Tracking Sensitivity	-165 dBm (GPS), -163 dBm (GLONASS)	-160 dBm (GPS & GLONASS)
	-146 dBm (GPS)	
Acquisition Sensitivity	< 35 seconds	-160 dBm (GPS & GLONASS)
Cold Start	< 1 second	26 seconds
Hot Start		1.5 seconds
Feature		Accelerometer for location tracking / dead reckoning in GPS-challenged environments

[1] For CCM equipped devices in the Australian and New Zealand markets, the recommended Ambient Temperature Range specification is -30°C to +45°C per the RCM directive for internal temperature limits for telecom equipment.

LMR TRANSMITTER

Frequency Bands (MHz)	VHF	UHF	700/800	900
Frequency Range (U.S.)	136-174	378-522	768-776, 798-806, 806-816, 851-861	896-902, 935-944
Frequency Range (Int'l)	136-174	378-522	763-776, 793-806, 806-825, 851-870	896-902, 935-944
Modulation Limiting (kHz)	2.5, 5 (FM)			5 (FM)
Audio Response	Meets TIA-603-D Section 3.2.6			
Spurious and Harmonics (dBc)	< -75, FCC Part 90	< -70, FCC Part 90	< -75, FCC Part 90	< -75, FCC Part 90
FM Hum and Noise (dB @ 12.5 kHz)	45.0			
FM Hum and Noise (dB @ 25 kHz)	47.0			
Audio Distortion (%)	< 3.0			
P25 Modulation Fidelity (%)	< 3.00			
Frequency Stability (ppm)	±1.5			

SPECIFICATIONS: XL ONBOARD SERIES

LMR TRANSMITTER (continued from previous page)				
Frequency Bands (MHz)	**VHF**	**UHF**	**700/800**	**900**
P25 Adjacent Power (dB)	> 67	> 67 @ 50 W (378-512 MHz) > 67 @ 25 W (512-52 2MHz)	> 67	> 67
Channel Spacing (kHz)	12.5, 25			12.5
Conducted Emissions (dBc)	-75	-70	-75	-75
Radiated Emissions	Meets TIA/EIA-603-D 3.2.12			

LMR RECEIVER				
Frequency Bands (MHz)	**VHF**	**UHF**	**700/800**	**900**
Frequency Range (U.S.)	136-174	378-522	768-776, 851-861	935-944
Frequency Range (Int'l)	136-174	378-522	763-776, 851-870	935-944
Channel Spacing (kHz)	12.5, 25			12.5
Sensitivity (12 dB SINAD)	-119 dBm			
P25 Sensitivity (5% BER)	-119 dBm			
Adjacent Channel Rejection @ 25 kHz (dB)	77	78	76	NA
Adjacent Channel Rejection @ 12.5 kHz (dB)	72	70	70	70
P25 Adjacent Channel Rejection @ 12.5 kHz (dB)	60	60	60	60
Intermodulation Distortion (dB)	77	78	75	75
FM Hum and Noise @ 12.5 kHz (dB)	49	47	45	45
FM Hum and Noise @ 25 kHz (dB)	50	50	47	NA
Rated Audio Output	2 channels of 15 W RMS into 4 Ohm			
Audio Distortion	< 3.0% @ rated power			
Stability Rejection (ppm)	+/- 1.5			
Spurious Rejection (dB)	92	90	88	88
Selectivity (dB)	NA	NA	20 (NPSAC Only)	NA

BROADBAND	
LTE Protocol	3GPP Release 11, Category 12, Power Class 3 UE with support for QoS QCI
North America LTE Option	FCC ID: N7NEM75S 4G LTE Bands: B2, B4, B5, B12, B13, B14, B17, B29*, B30*, B66 3G Bands: B2, B5
International LTE Option (In selected countries)	4G LTE Bands: B1, B3, B5, B7, B8, B28 3G Bands: B1, B5, B8
Wi-Fi	802.11ac 2.4 GHz; supports up to 10 client devices
Bluetooth	Bluetooth 4.0 (128-bit encryption)

*Downlink only for Carrier Aggregation

ENVIRONMENTAL STANDARD			
Applicable Standard	**Parameter**	**Methods**	**Procedure/Categories**
MIL-STD-810G*	Low Pressure	500.5	1,2
	High Temperature	501.5	1,2
	Low Temperature	502.5	1,2
	Temperature Shock	503.5	1-B
	Solar Radiation	505.5	1/A1
	IP65 (Control Unit)	506.5	1,3
	IP54 (Radio)	506.5	3

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ENVIRONMENTAL STANDARD (continued from previous page)			
Applicable Standard	**Parameter**	**Methods**	**Procedure/Categories**
	Humidity	507.5	2
	Salt Fog	509.5	1
	Blowing Dust	510.5	1,2
	Vibration (Basic Transportation)	514.6	1, Category 4
	Vibration (Minimum Integrity)	514.6	1, Category 24
	Shock (Crash Hazard)	516.6	5
	Shock (Bench Handling)	516.6	6
U.S. Forest Service	Vibration (10-60 Hz)	Paragraph 2.15	
IEC 60529	Dust-tight and Water Jets	IP65 (Control Unit)	Table 2, Par. 13.4 Table 3, Par. 14.2.5

*Also meets equivalent superseded MIL-STD-810D, E and F

DIGITAL OPERATION		
Protocol	**P25**	**ProVoice™**
Vocoding Method	AMBE+2™ Enhanced Full Rate & Enhanced Half Rate	AMBE+2™ Enhanced Full Rate
Signaling Rate (kbps)	9.6	9.6
Modulation	Phase 1 TX: C4FM, RX: C4FM & CQPSK Phase 2 TX: HCPM, RX: HDCQPSK	GFSK
L3Harris Failsoft Operation	Switch to site Trunking Mode (for L3Harris infrastructure) or P25 Conventional Failsoft for Motorola	

ENCRYPTION	
Encryption Algorithms	Voice Encryption: Single-key AES/DES, Multiple-key AES/DES, DES-OFB, Encryption Lite (ARC4), 256-bit AES P25, 64-bit DES Control Channel Encryption: 128-bit AES (LLA)
Encryption Keys Per Radio	Number of Encryption Keys per Keystore (up to 5 keystores per radio): 128 AES, 64 DES, 5 LLA, 8 Encryption Lite (ARC4), 4 AES UKEK, 4 DES UKEK
Keying	L3Harris Key Loader, P25 Over-the-Air-Rekeying (OTAR), Motorola KVL 3000+/4000/5000
Standards	FIPS 140-2 Level 1, FIPS 197

REGULATORY DATA						
Frequency Range	**RF Output (W)**	**Frequency Stability**	**FCC Type Acceptance ID**	**Applicable FCC Rule**	**Industry Canada ID**	**Applicable Industry Canada Rule**
136-174	50.0		OWDTR-0161-E	90	3636B-0161	RSS-119
378-522	50.0		OWDTR-0161-E	90	3636B-0161	RSS-119
763-776, 793-806	30.0	0.1	OWDTR-0161-E	90	3636B-0161	RSS-119
806-825, 851-870	35.0	0.1	OWDTR-0161-E	90	3636B-0161	RSS-119
896-901	35.0	0.1	OWDTR-0161-E	90	3636B-0161	RSS-119
935-944	35.0	0.1	OWDTR-0161-E	90, 101	3636B-0161	RSS-119
Emissions Designators	16K0F3E, 16K0F1D, 16K0F1E, 14K0F3E, 14K0F1D, 14K0F1E, 11K0F3E, 11K7F1D, 11K7F1E, 7K10F1D, 7K10F1E, 8K40F1D, 8K40F1E, 8K10DXW, 18K5F1W, 12K9F1W					

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The XL Onboard™ Series of Mobile P25 Radios

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L3Harris Technologies is the Trusted Disruptor in the defense industry. With customers' mission-critical needs always in mind, our 50,000 employees deliver end-to-end technology solutions connecting the space, air, land, sea and cyber domains in the interest of national security.

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